IN THE CIRCUIT COURT OF THE STATE OF OREGON
FOR THE COUNTY OF MULTNOMAH

The Estate of JESSE D. WILLIAMS, deceased, by and through MAYOLA WILLIAMS, personal representative, Plaintiff,	)	
vs.	)	No. 9705-03957
PHILIP MORRIS INCORPORATED, Defendant.	)	Afternoon Session
	)	Volume 19-B

TRANSCRIPT OF PROCEEDINGS

BE IT REMEMBERED that the above-entitled matter came on regularly for jury trial before the Honorable Anna J. Brown, Judge of the Circuit Court of the County of Multnomah, State of Oregon, on Thursday, March 18, 1999.

APPEARANCES

Raymond Thomas, James Coon, William Gaylord and Charles Tauman, Attorneys at Law, Appearing on behalf of the Plaintiff;

James Dumas, Walt Cofer, Billy Randles, and Pat Sirridge, Attorneys at Law, Appearing on behalf of the Defendant.

Dennis Apodaca
Official Court Reporter
556A Multnomah County Courthouse
Portland, Oregon 97204
248-3180

WITNESS INDEX

Thursday, March 18, 1999

P R O C E E D I N G S

(Open court; jury not present.)

THE COURT: I'm getting a signal from the clerk that Ms. Dewees is here. Is there anything for the record before we bring in the jury?

MR. GAYLORD: No, Your Honor.

(Open court; jury present:)

THE COURT: Good afternoon, jurors.

JURORS: Good afternoon.

THE COURT: Mr. Sirridge.

MR. SIRRIDGE: Thank you, Your Honor.

DIRECT EXAMINATION
(Resumed)

BY MR. SIRRIDGE:

Q. Dr. Fuhrman, would you step down, please. We will try to continue where we were.

A. (Witness complies.)

Q. Doctor, if you recall, we had looked at the chest x-rays from '84, '86, and from 1991, and from early in 1996, and then we were looking at the chest films of September, 1996.

Would you just briefly tell the jury where we were in terms of your review of this particular film?

A. At this point, we reviewed the findings that were stable and unchanged from many old films, including a little bit of the blunting of the right costophrenic angle and the minimal thickening of the minor fissure, which has been present since the 1980s and I consider nonsignificant.

The abnormality in the chest radiograph at this time is the abnormal soft tissue in the right peritracheal. This is the trachea here. This is the right peritracheal region. The distance between the wall of the trachea and the

outer edge of the lung here should not exceed over four or five millimeters in most normal people.

Also, you see that the right bronchus, which you can barely see, is narrowed and partially occluded. And we have abnormal soft tissue in the right hila.

On the lateral projection, we have lost our landmark of the posterior tracheal stripe. It has been replaced by this thick, gray, ribbon-like material, and we also have soft tissue going under the origin of the left upper lobe bronchus, which I mentioned was the location of the subcarinal region.

Q. Doctor, we talked earlier this morning about the usefulness of looking at chest x-rays from a series of time.

A. That's correct.

Q. Would it be helpful to do that here?

A. I think it might shed refining it if people are having a difficult time seeing it.

Q. This isn't very scientific, but I'm going to try to put something above here so we can tell what years are going to be reflected in which panels.

Doctor, if you would find the PA films

from -- I think from 1996, 1990 -- I'm sorry. Strike that.

1986, 1991, January of 1996, and finally September of 1996.

A. (Witness complies.)

Q. All right. Doctor, you have got the frontal view, or the PA view of the chest films at four junctures from 1986 to 1996, correct?

A. That's correct.

Q. Could you explain to the jury in a series the changes that you noticed during this time period?

A. Yes, sir, I will try.

We are going to go back to the 1986 film, which is normal except for the mild degree of thickening of the minor fissure in the chronic blunting of the right costophrenic angle. The heart and lungs are normal at this time.

These structures here are the hila, which is the blood vessels, the bronchi, and the lymph nodes, which connect the lungs to the mediastinum, which is the solid tissue portion in the center of the chest around the heart. They should be about the same size and density. The left hila is often slightly higher than the right. That's a normal

finding.

The other finding I'm going to call your attention to is this thin white line along the trachea. That is called the right peritrachea stripe. The upper limits of normal in male patients is seven millimeters.

If we take a look at the film from October 28, 1991, I perceive no change in the PA projection between these two.

One of the things that you have to learn is that the exposure between films can never be absolutely reproduced. And you can see that the right lung here is a little bit blacker than the left lung. This is a normal variation that occurs with radiographs taken at different hospitals, different institutions. And the quality of both of these x-rays I would consider to be very good.

The next thing we have is January 23, 1996. Again, I pointed out to you this morning, I believe this sticker is incorrect. It says January 22. Everything else says January 23. I think we can see a difference in this chest radiograph.

This might be a little bit subtle or hard to perceive, but I will ask you to take a look at

the size and the shade of white between these right hila. I think, with a little staring at it, you can see that the right hilum is a little bit larger and a little bit wider. But probably more important, you can see that the thickness of this peritracheal stripe here, which used to about 100 percent normal, is now thickened.

And, finally, our last film, nine months later approximately, I don't think we have any doubt that all of this tissue here in the right peritracheal region is abnormal. We also have abnormal tissue adjacent to our right bronchus and abnormal tissue in our right hila.

So I think a real important point is that when you look at the January 23 film is that there is a definite difference in the PA projection between those two radiographs. And had I been interpreting the films of January of 1996, I would have read this as a very significant abnormality and lung cancer of some type would need to be considered as my number one diagnosis.

BY MR. SIRRIDGE:

Q. Doctor, is the abnormality that you are pointing to in January of 1996 the same abnormality which was diagnosed as cancer in

September and October of 1996?
A. Yes. Although it is a little bit larger in the nine-month interval.
Q. In your opinion, are the changes that you see in January in 1996 directly related to the cancer which was later diagnosed in '96?
A. Absolutely, yes.
Q. Now, Doctor, let's try to do the same thing with the laterals.
A. Okay.
Q. All right. Would you take the jury through this ten-year period using the lateral chest exams from Mr. Williams.
A. My experience is that most radiologists have a more difficult time with the lateral projection because everything is superimposed upon itself.
Q. When you say "superimposed," what do you mean?
A. We have a three-dimensional structure of a chest, which is condensed to a two-dimensional image.
Just to orient you, the patient is looking sideways looking at the window, is the way we typically mount our films. It may not be the

projection the patient was standing when it was taken, but we have rules about how we hang films. We always hang them the same way.

In the back is the spine. These structures over here are the ribs. In the front is the sternum, also known as the breastbone. These white lines over here are the fissures separating the lobes of the lung from the upper lobes and the lower lobes.

I mentioned earlier that there is a crucial anatomic landmark on the lateral projection. We call that the posterior tracheal stripe or line, and it extends along the back of the trachea over this region. I think you can all appreciate that very well-defined white line.

Q. Doctor, let me put this up just for a second and sort of orient the jury as to the area you are talking about. Even though this is a lateral, could you orient them with a picture about what you are talking about here?

A. I'm afraid that would be very difficult because we would need to turn this whole set 90 degrees.

What we're looking at is the back wall of this. Remember that we have black air in the side

of the cylinder. We have black air in the lung touching it, and the white line between them would be that back wall.

Q. All right. Thank you.

A. And if we take a look then in 1991, which is the first film that I consider convincingly abnormal, is that this white line over here extends up here, and now we have a small oval-shaped capacity, about the size of a small coffee bean, I would suppose, in this region right over here.

If we look before, the white line continued all the way up. And now, if you look carefully here, if I cover the bottom part of the white line, you no longer see it extending upwards. So that tells me that there is an abnormal soft tissue in that region. What it is, I really don't know at this point. This is a significant abnormality.

I think it is important to realize the clinical setting this film was obtained in. We don't read films in a vacuum. You have to understand that the clinical history is very important. This is a man with history of cough and hemoptysis. Coughing up blood is a very, very

serious symptom. And I think Dr. Kern's note mentioned the possibility of a tumor would need to be considered at that time. I would think that would be an accurate assessment.

Q. Doctor, would you move -- let me ask you, the finding that you see here in the lower trachea, is that in the location where the cancer was later diagnosed in September and October of 1996?

A. Yes, it is.

Q. All right.

And can I ask one more question? In your opinion, is the abnormality that you see in October of 1991 the cancer -- beginning of the cancer that was later diagnosed in 1996?

A. I believe it is.

Q. Would you proceed along with the January '96?

A. Okay. The next set of films we are going to take a look at are over here. This is an interesting finding in radiology because if we turn the film sideways, we sometimes call this the binocular sign because it looks like a pair of binoculars looking at you, a black circle looking at you. That's something we teach our residents

as a sign of disease in this region, you should not be able to see.

Let's now take a look at the shade of black and gray in front of the aorta here and our landmark, that white line. I think we look now in January, this is a very abnormal film with at least two centimeters of abnormal thick tissue.

And I can see a little portion of that white line, which is still there. But all of this white tissue here, all of this white tissue under this black hole is now abnormal.

Q. Doctor, can you -- is there any way to measure in 1991 how big the density is?

A. I think there is an approximation. The borders of it are not well-defined. I think as a standard rule, there is about a 10 to 20 percent magnification on a lateral projection. But in the clinical world, we have to live with this magnification because it is the only thing we have.

I think if we measured it from approximately here to here, I would measure it at, oh, approximately 1.8 centimeters, which is slightly less than three-quarters of an inch. That's a pretty small structure at that time.

Q. 1.8 centimeters --
MR. DUMAS: Excuse me, Mr. Sirridge.
BY MR. SIRRIDGE:
Q. We are on -- could you continue on with January of '96.
A. This is 10/28. Again, this is 1/23/96. Finally, we have a film which is just days before diagnosis, and at this time we can see some of the very same, similar findings. But you will notice that before we had a round, black hole here, that has been almost totally obliterated, and that's the origin of the right upper lobe of the bronchus.
Based upon this observation, I can tell you that we have probably at least 50 percent occlusion of the bronchus leading to the right upper lobe.
Q. All right. Doctor, let me ask you a question. Is the abnormality which you have described as cancer here in 1991, did you indicate that was in the same location as it was diagnosed in 1996?
A. The area that involved this abnormal soft tissue in 1996 is exactly the same anatomic region that is the abnormality detected on the lateral

projection in October of 1991.
Q. Are the opinions that you are giving here, Doctor, with regard to where the cancer is, are they given to the jury with a reasonable degree of medical probability?
A. Yes.
Q. All right. Let's -- I want to ask you, Doctor --
MR. SIRRIDGE: I'm going to show Dr. Fuhrman what has been marked as Defense Exhibit 624.
MR. GAYLORD: Is this the same films already up here?
MR. SIRRIDGE: Yes, it is from those.
MR. GAYLORD: I guess my concern is it is the same thing. It sounds sort of cumulative.
THE COURT: Let's see what the use of it is.
MR. GAYLORD: If there is something else to do with it, I don't object.
BY MR. SIRRIDGE:
Q. Doctor, could I ask you to identify the photographs in this exhibit.
A. These are magnified projections of the lateral projections that we're seeing on the view

box above dating from 3/4/86, 10/28/91 -- I believe that should be 10/28/91 -- and 1/22/96.

Q. Doctor, is this a fair and accurate representation in a blown-up form on what occurs on the original x-rays?

A. Yes.

Q. I ask you, Doctor, to circle the areas on this exhibit that you are talking about on the lateral projection that represent the development of Mr. Williams' cancer.

A. I believe it is this structure right over here. I will put a circle around it like that.

Q. And would you also circle the area in 1996 that you believe is visible.

A. Well, we have much more extensive tumor at this time, and I would believe that this whole area here is now abnormal.

Q. All right. Thank you, Doctor.

Now, at this time in late September of 1996, were there also CT scans done --

A. Yes.

Q. -- with respect to Mr. Williams?

A. Yes.

Q. Would you describe those for the jury, please.

A. Yes.
Q. Dr. Fuhrman, this is a completely different kind of x-ray?
A. Very different type of x-ray. It is a computer-generated x-ray from a computer tomography.
Q. You described that this morning. That is not when a person is standing up straight, is it?
A. No, they are lying on their back on a device we call a gantry. The gantry transports the patient through the x-ray beam and basically sections the patient, much like a bread slicer.
Q. And could you describe for the jury what the CT scan shows in late September, 1996?
A. The CT scan usually would have been done with intravenous contrast, where you put a needle in the arm and you inject IVP-type dye to the path to find the blood vessels.
Q. Slow down, Doctor.
A. The x-ray report indicates that they had trouble getting a needle in place, so they did the scan without contrast. So this is a noncontrast-enhanced CT scan.
Q. Does that make a difference to you in terms of your interpretation?

A. The vessels would light up white with contrast, whereas a tumor would stay gray. I don't think that in this case that there is any significant information that is lost by not having an IV contrast.

Q. All right. Could you describe for the jury what you see on this CT scan?

A. The CT scan is going to come into two parts. And the two parts that we are going to call the mediastinum windows, followed by the lung windows. They are the same image, but the computer generates them differently to allow us to see lungs better on one image and the soft tissue of the chest better on another image. So we have eight sheets of film, typically, for a chest CT scan.

This is the scout film, which shows you the heart: The right lung and the left lung. Each one of these dotted white lines indicates the slice that you will be looking at. The way I like to describe this, if you are standing at the foot of a patient's bed, and the patient is lying on his or her back, and then we have sliced them, then those images will be raised like a piece of toast on a toaster for you to look at.

Again, you're standing on a patient's foot looking upward at the patient. So, again, things on this side of the CT scan will be the patient's right side, even though it is on your left side. These are the anatomic configurations that everybody in the world abides by.

The CT scan in this case, of course, is going to be very abnormal. We have abnormal soft tissue in the right peritracheal region, which accounted for the thickness of our right peritracheal stripe. And all of this material here is tumor. The tumor extends along the right side of the trachea, partially compresses the superior vena cava, and then we see that there is an abrupt change in the caliber of this black hole, which represents the air in the trachea.

This is tumor growing into the lumen of the trachea and right bronchus, so we call this exophytic, meaning it is fungating out into the lumen. And when you do a bronchoscopy, you will see tumor partially occluding the lumen. That's what we mean by exophytic, growing into the airway, which is an important distinction.

The tumor extends into the subcarinal region, and all this material over here represents

tumor. The tumor goes down and partially encases the right upper lobe bronchus, and we take a look at the size of a diameter of this little black hole here and compare it to the normal left side at this point, you can see that this lumen is occluded approximately 75 percent or so. And this -- again, this is all tumor extending down to here.

Q. Does Defense Exhibit 919 enable you to show where the tumor is on this exhibit?

A. All of these lymph nodes here are enlarged. The tumor is growing into the trachea here. The tumor is growing into the proximal portion of the right bronchus here with an exophytic component partially occluding the right bronchus.

We also have tumor going into the subcarinal region, and we also have tumor running along the origin of the left proximal bronchus.

Q. Thank you.

Doctor, are the opinions that you are expressing today with regard to the radiology, are they all delivered with a reasonable degree of medical probability?

A. Yes.

Q. Doctor, I think this would be a good time to resume your seat.
A. Do you want to do the lungs?
Q. I'm sorry. How many do you want down?
JUROR SMITH: Before he resumes the seat, did he say where he first saw the 1991 part on the piece of lung thing?
THE COURT: Go ahead, Doctor.
JUROR SMITH: Can you show me on the exhibit?
THE WITNESS: She wants me to show where the tumor was on the original lateral projection in 1991. Is that correct?
If you remember, we said that the white line was obscured right above the origin of the right upper lobe bronchus. This is the right upper lobe bronchus. The tumor back then was right in this region, right over here.
JUROR SMITH: Okay. Thank you.
THE WITNESS: These are the same set of images displayed with lung windows. The lung windows allow us to look at the lung panoramically and allows us to look for pulmonary nodules, and there is no evidence of any pulmonary nodules in either the left or

right lung.

I think you can really appreciate the narrowing of the right upper lobe bronchus here compared to the black branching structures which represent the left bronchi.

BY MR. SIRRIDGE:

Q. Just a couple of questions, here, Doctor. Was Mr. Williams' tumor diagnosed in 1991?

A. No, it was not.

Q. Do you have an opinion as to why it may not have been diagnosed?

A. I think a finding on lateral projection is a subtle finding. I think most radiologists spend most of their time on the PA projection, and this finding was only apparent on the lateral projection as a subtle finding.

Q. And, Doctor, was Mr. Williams' cancer diagnosed in January or February of 1996?

A. No, it was not.

Q. Do you have an opinion as to why it may not have been diagnosed at this point?

A. It was not recognized.

Q. Thank you. Would you take your seat, Doctor.

A. (Witness complies.)
THE COURT: Go ahead, Mr. Sirridge.
MR. SIRRIDGE: Thank you.
BY MR. SIRRIDGE:
Q. Dr. Fuhrman, did you measure the size of the cancer mass and area on the computerized tomography, the CT scan, in 1996?
A. Yes, I did.
Q. What were the measurements?
A. The measurements would depend on exactly where you measured the tumor. It is a difficult tumor to measure because it has different contours and different areas. The region I measured it at was near the right hilum and in the subcarinal region, and I can provide you an estimate of the tumor size of approximately 7.5 by 4.0 by 7.5 centimeters.
Q. 7.5 by --
A. By 4.5.
Q. By --
A. 7.5. And I would consider this is an underestimate since I did not measure the tumor extending along the left bronchus, and I did not measure the tumor in the right peritracheal region.

Q. Can you tell from the CT scan that we just saw in 1996 whether Mr. Williams' tumor had spread outside the chest?

A. It had not spread outside of the chest, but it had crossed the midline and involved the carina. And at this point, unfortunately, this was not a receptible lesion. It would be considered clinical Stage 3B lung cancer.

Q. When you say something is not a receptible lesion, what does that mean in regular terms?

A. It means that this is not a patient who would be considered a candidate for curative surgery to remove all the tumor.

Q. Now, Doctor, was there a further diagnostic procedure done on Mr. Williams following the chest x-rays in September and the CT scans?

A. I believe he had a bronchoscopy, which included a biopsy.

Q. Now, were the findings in the bronchoscopy consistent with the radiologic findings?

A. Yes. An exophytic mass involving the distal trachea, right main stem bronchus, carina,

and proximal left bronchus was described in the bronchoscopist's report. He also reported, I believe, approximately 75 percent narrowing of the right upper lobe bronchus, and he was unable to pass his scope into that bronchus.

Q. Doctor, following the bronchoscopy, was the cancer diagnosed at that point?

A. Yes, it was.

Q. And let me ask you, Doctor, if Mr. Williams' cancer had been diagnosed in January or February of 1996, instead of October, would the treatment have changed for Mr. Williams?

A. No, it would not.

Q. Why is that?

A. I believe that in January of 1996 the tumor was already unreceptible and represented at least a Stage 3B lung cancer. A detailed metastatic workup, including a bone scan, brain scan, abdomen scan would be necessary to determine if there is distal metastasis, which would then change him from a 3B tumor to a Stage 4 tumor.

Q. What is the difference between a Stage 3 tumor and a Stage 4 tumor?

A. A Stage 4 tumor has distant metastases.

Q. Dr. Fuhrman, what was the pathology

diagnosis in the case?
A. The pathology was diagnosed as a poorly differentiated carcinoma with adenosquamous differentiation.
THE COURT: Doctor, repeat that.
THE WITNESS: It was a poorly differentiated carcinoma with adenosquamous differentiation.
BY MR. SIRRIDGE:
Q. Doctor, are the radiologic findings that you just reviewed in this case and just described for the jury, are they consistent with an adenosquamous carcinoma of the lung?
A. They would not be typical for an adenosquamous carcinoma of the lung for three reasons:
No. 1, adenosquamous carcinoma of the lung does not usually have exophytic growth into a bronchus.
Q. Excuse me a second, Doctor. Let me get that one exhibit again and see if that might be of assistance to you.
A. We talked about the exophytic tumor invasion of the distal trachea and right main stem bronchus, and the CT findings were confirmed on

direct bronchoscopic observation where the bronchoscopist described an exophytic tumor mass growing into the airway of a bronchus.

Q. Now, you indicated that there were three reasons.

A. Yes.

Q. I'm sorry, I interrupted, could you repeat those three reasons again.

A. The three reasons is, No. 1, adenosquamous carcinoma does not have endobronchial tumor growth.

No. 2, the vast majority of adenosquamous carcinomas are peripheral lung tumors, 50 percent of which are associated with pulmonary scars. By "peripheral" I mean they grow out here, very far away from the bronchus, near the plural lining of the lung. So most adenosquamous carcinomas are in the periphery.

Q. Doctor, when you were considering a diagnosis of adenosquamous carcinoma of the lung, are there any types of bronchial carcinoma that come to mind besides that?

A. Yes, mucoepidermoid carcinoma of the lung.

Q. Are there types of mucoepidermoid

carcinoma?
A. They are basically broken into two groups: The more poorly differentiated and a well-differentiated.
Q. What type would you consider as a possible diagnosis comparable with adenosquamous carcinoma?
A. I'm sorry?
Q. Poor question. If you were considering a diagnosis of adenosquamous carcinoma, what type of mucoepidermoid carcinoma would you consider as a potential diagnosis?
MR. GAYLORD: Your Honor, I'm going to object. This sounds like speculation, "possible potential."
THE COURT: Rephrase your question with a different foundation.
MR. SIRRIDGE: Sure, thank you.
BY MR. SIRRIDGE:
Q. I asked when you are considering a diagnosis of adenosquamous carcinoma, what other type of bronchial carcinoma is a possible diagnosis?
MR. GAYLORD: Same objection.
THE COURT: The objection is coming from

the use of your term "possible" in the context of medical probabilities.

BY MR. SIRRIDGE:

Q. Fine, I will go back and say, Doctor, are you familiar with the term "differential diagnosis"?

A. Yes, sir.

Q. What does that mean in medicine?

A. It means when you're presented with a constellation of findings, you make a list of possible diagnoses and you weigh the possible diagnoses by other clinical findings, your experience, and other medical facts related to the case to come up with a working list of diagnoses.

Q. Doctor, what is the differential diagnosis of adenosquamous carcinoma of the lung?

A. The differential diagnosis would be a poorly differentiated mucoepidermoid.

Q. Is a poorly differentiated mucoepidermoid carcinoma the same thing as a high-grade mucoepidermoid carcinoma?

A. That's a pathology question, but I would say yes.

Q. Now, where in the tracheal bronchial tree do mucoepidermoid carcinomas typically arise?

A. Mucoepidermoid carcinomas typically arise in the very proximal portion of the main stem bronchi and the distal trachea.
Q. Is that exactly where Mr. Williams' tumor was seen by you in October of 1991?
A. Yes, it is.
Q. What kind of growth rate does mucoepidermoid carcinoma high grade have?
A. It can grow relatively rapidly.
Q. And what about mucoepidermoid low grade?
A. It can grow very slowly over a period of many years.
Q. And can mucoepidermoid carcinoma arise in the lower part of the trachea?
A. Yes.
Q. And can mucoepidermoid have a growth rate like Mr. Williams' cancer in this case?
A. Yes.
Q. In your opinion, Doctor, to a reasonable degree of medical probability, do the radiologic findings that you described and the information that you have learned from the medical records, do they favor a diagnosis of mucoepidermoid carcinoma high grade or a diagnosis of adenosquamous carcinoma of the lung?

A. Based on the reasons I mentioned, I would favor a diagnosis of a high-grade mucoepidermoid.

Q. Doctor, I'm going to ask you -- let me backtrack a little and ask you a couple of questions.

Doctor, are the opinions that you have given today, as a medical doctor, have they been given to a reasonable degree of medical probability?

A. Yes.

Q. Let me ask you a few final questions, Doctor.

Is it your opinion that Mr. Williams' bronchial carcinoma can first be seen on the lateral x-ray in October of 1991?

MR. GAYLORD: Objection, leading.

THE COURT: It is leading. And cumulative.

MR. SIRRIDGE: I will rephrase.

MR. GAYLORD: Which, besides, it is cumulative.

THE COURT: That's what I said. Now you're cumulating me.

Just ask your next question. I understand the need for summaries. Be

sensitive, please.
MR. SIRRIDGE: All right.
BY MR. SIRRIDGE:
Q. Doctor, in your opinion, what was the size of the carcinoma that you saw in October of 1991 that you measured up there?
A. It measured approximately 1.8 centimeters.
Q. Do you have an opinion to a reasonable degree of medical probability as to when Mr. Williams' cancer started growing?
A. No, I don't, because I have no films between 1991 and January of 1996.
Q. Now, the cancer that you saw in 1991 on x-ray in October, how long had that cancer been growing?
A. The answer is, I don't know.
Q. Is it a number of months or a number of years?
MR. GAYLORD: Objection. He just said he doesn't know.
THE COURT: Objection is overruled. The witness may answer if he can answer.
THE WITNESS: I think we believe that most of them are present for three to five years

before they become radiographically visible.

BY MR. SIRRIDGE:

Q. Doctor, do you have an opinion, to a reasonable degree of medical probability, as to the cancer type most consistent with the medical findings in this case?

A. I would favor a diagnosis of a poorly differentiated mucoepidermoid.

Q. Doctor, do you have an opinion whether a low-grade mucoepidermoid carcinoma is related to smoking?

A. There is no association to smoking.

MR. SIRRIDGE: That's all I have.

THE COURT: Thank you.

Mr. Gaylord.

MR. GAYLORD: Thank you.

CROSS-EXAMINATION

BY MR. GAYLORD:

Q. Dr. Fuhrman, you described for the jury earlier this morning how the radiology, for diagnostic radiology purposes, starts with a patient usually being referred to diagnostic radiologist such as yourself.

A. Not to me personally, but to our department.
Q. Okay. And in the medical setting that you are used to, that occurs where a patient's physician who's treating them over the months and years decides there is some reason to have an x-ray taken and makes a referral to your department?
A. Yes. The patient needs to have a prescription indicating the examination that the physician is requesting.
Q. And your department doesn't make any of the decisions about starting the process, you just carry it out?
A. That's correct.
Q. And the film then is made by people that are not doctors that work in the department as technicians?
A. Technologists, yes.
Q. And the patient reports at the appointed time to the radiology department and the technicians prepare them in whatever way is necessary for the kind of procedure they are going to have?
A. For a chest x-ray, we usually don't have

them prescheduled. They can arrive at any time with a prescription, and we can usually fit them in quickly. A very quick exam.

Q. But my point is, they get there, they meet technicians, the technicians position them?

A. They meet the receptionist, who takes the appropriate information, puts it into the computer, and requisition is generated, processed by the technologist assigned to that service.

Q. The technologist actually makes the x-ray?

A. They take the exposures and correctly label them.

Q. They set the x-ray machinery up for the exposure?

A. Not in our institution. We have photo timing. The technologist just decides the size of the patient.

Q. Your machinery is automatic in setting the duration and power?

A. That's correct. We have automatic exposure, which takes the human factor out of it.

Q. Quality of x-rays does vary depending on how the machinery is set each time a film is taken, doesn't it?

A. Not each time it is set. I think the film quality can vary between institutions. The film quality should be very consistent in the same department on a daily basis, unless there is a problem with chemicals or some other reason.

Q. Well, there are a number of variables that affect how clear a given x-ray film comes out?

A. That's correct.

Q. Like thickness of the body part that is being x-rayed?

A. That's correct.

Q. Any movement that occurs while the x-ray is shot, is taking place?

A. That's correct.

Q. The duration or the timing of the radiation dosage that is used?

A. Yes.

Q. How much power is used, that's a variable on the machinery, isn't it?

A. Not on photo timing.

Q. Your equipment that you were using has a fixed non-variable shot and it varies the duration then?

A. No. There are sensors behind the film

which monitors the amount of radiation reaching the film and shuts off the exposure when the density is correct.

Q. Okay. But still, in the overall scheme of things, the amount of dosage of radiation that is used is one of the variables that affects how good the film comes out? I understand yours is done automatically.

A. I'm not sure of the question.

Q. Well, isn't it somewhat analogous to taking photography pictures and the amount of light exposure to the film makes a difference in how light or dark or distinct or clear?

A. That's true. But to eliminate that, we have photo timing and automatic processing.

Q. In your location?

A. Yes.

Q. Structures that you look for on an x-ray film can vary their appearance, depending on exactly the angle of the film, the shot taken?

A. That's correct. That's why positioning is critical.

Q. The automatic dose measurement device that you are referring to and it sounds like the state-of-the-art equipment that you have got, that

doesn't fix positional issues with the patient, does it?

A. No. The technologist must position the patient in front of the cassette.

Q. That's a question of skill and experience of each technologist involved in the case?

A. That can be, yes.

Q. Now, do you know how the relationships work between the doctors at HealthFirst Clinic in Portland and the radiologists that worked on Jesse Williams' case?

A. No, I do not.

Q. Don't have a clue about that?

A. No.

Q. You understand that it is a similar relationship to what you have described in a sense that the treating doctors make a referral and give the prescriptions, so to speak, for the x-rays?

A. Yes.

Q. And the patient just shows up at the time and place they are assigned and technicians take over and make the x-ray film?

A. Not quite that simple a procedure, but they need to register, computer information is generated, insurance billing information is

generated, and the patient is then assigned to a room for a study.

Q. And then when that procedure has been done, a few minutes later, I think these days, the film comes out and there is an x-ray that is the product of that work?

A. Ninety seconds to three minutes is a typical time for processing.

Q. The technician doesn't read that film?

A. The technician checks the film for quality, exposure, motion, and for the adequacy of the body part being imaged.

Q. Sure. The technician is making sure there is good enough film to let a doctor read it?

A. That's correct.

Q. And a doctor reads it?

A. That's correct.

Q. And that doctor is a diagnostic radiologist just like you?

A. In our institution, yes.

Q. Well, do you know whether it is a diagnostic radiologist that read the films in Jesse Williams' case?

A. I have no idea.

Q. So as you sit here, you don't know how

any of the films taken in Jesse Williams' case were dealt with here locally in Portland?

A. No. All I have is the final product to evaluate.

Q. You have looked at the films, but you don't know what anybody else did or who did it or what their qualifications are?

A. Film quality is very good to excellent.

Q. As far as you can tell, the technologists in the system here did their job well?

A. These are perfectly acceptable films.

Q. When you were asked to review these films did you know that this was a case against a tobacco company?

A. No, I did not.

Q. When were you first approached to get involved in any sort of a medical issue for a tobacco company or a tobacco company's lawyers?

A. Approximately ten years ago I did some review of cases for asbestos for the same company.

Q. "Same company," you are not talking about the tobacco company?

A. No.

Q. Same company meaning the same law firm?

A. Same law firm, that's correct.

Q. And then from time to time did you do work on tobacco-related cases?
A. I reviewed cases for them and give them my opinion.
Q. Okay. That's something you have done since ten years ago, when you first met them, up until today?
A. Probably ten to fifteen cases over ten years.
Q. And in all of those ten or fifteen cases, was it part of your knowledge that somebody was making a claim for something?
A. I think that's a fair assumption when a lawyer asks you to look at a film.
Q. In terms of the relationship that you had with the lawyers, you knew that those lawyers were on the defense side of those cases?
A. I would assume, yes, but I did not know that as a fact.
Q. You knew in those cases when they came to you that somebody was making a claim based on some sort of lung disease?
A. Yes.
Q. Before you testified in this case, did you go over the situation in this case with

Mr. Sirridge or anybody else from the lawyers' group?

A. We reviewed the films and my interpretations of the films.

Q. And so you had some idea about what kinds of issues had been raised in the case, what kinds of differences could be associated with what you might see on the films?

A. I'm not sure of your question.

Q. Well, you knew before you came in here and testified today that it might make a difference in this case when did you say cancer first showed up on these films, didn't you?

A. I really don't know that as a fact, but my interpretation is my interpretation.

Q. My question -- I'm sorry.

A. You know, whether it makes a difference at this time, I don't know.

Q. Okay. You don't know -- you don't remember right now whether you knew before you came into this courtroom this morning that it could make a difference to this case?

A. My first --

Q. Let me finish. Excuse me.

Do you or do you not remember, now, as

you sit here, whether you were aware before your testimony began today that the timing of the start of this cancer could make a difference in this case?

A. I think it could make a difference, yes.

Q. Okay. Now, you mentioned board certification.

A. Yes.

Q. And I think you told us that's national examinations that you and your colleagues in diagnostic radiology take in order to call yourself board certified.

A. It is an examination conducted by the American Board of Radiology, yes.

Q. It is a national standard; it is not just in Pittsburgh; it is in Portland, Oregon, too?

A. The oral examinations are held in one city once a year.

Q. I think we both understand, but let me make sure for the jury's benefit.

When you or another diagnostic radiologist reaches the point in your career where you have completed your formal training, and your residency, you may have worked a little while in the field after your residency, but now you decide

that you are ready for your board exams, and you are qualified under the criteria that are provided, then you or any other radiologist in that position goes and takes those exams, no matter what part of the country you're from?

A. That's correct. If you have passed your written examination and are qualified for your oral examinations, we take it in our last month of our residency.

Q. Okay. But a board-certified diagnostic radiologist in Pittsburgh, Pennsylvania has passed the same tests as a board-certified diagnostic radiologist in Portland, Oregon?

A. That's correct.

Q. You haven't looked into -- you already told us you don't know whether physicians or somebody else was involved in the diagnostic radiology in Jesse Williams' case.

A. All I know is the names I read on the report. I know nothing about them.

Q. So I'm going to -- I am just going to go through the radiology reports from this record briefly to make sure I know what that means or doesn't mean, from your standpoint.

I have to tell you, I don't know names,

but there are initials on a lot of them. We probably can't tell much from initials.

MR. GAYLORD: How tough would it be to get that out of our way?

BY MR. GAYLORD:

Q. While that's happening, Doctor, I'm going to show you the pages I put on the viewer where I can tell what page numbers they are, or exhibit numbers. Here we go.

There is a Defendant's Exhibit 902, 901, 900, 899, 898 -- I see a pattern. This one doesn't have a defense exhibit number, but it is Bates number Page 404. Then 403, 402, and 401.

Now, I just want to show those to you so that when I put them in front of the jury you can talk about the same thing.

A. That's fine.

Q. What I would ask you to do is just look through those enough to be able to tell me is that record -- are those records that you are familiar with?

A. Yes. They appear to be.

Q. Okay. I need them to show the jury.

Sir, you did review the written reports of x-ray work that was done here locally by

Portland physicians on Jesse Williams' case?
A. Yes, I did.
Q. And I think the earliest films you talked to us about was December 11, 1984.
A. 1984. I think December 11 is the correct date.
Q. I'm looking at it. I will ask you to assume that date is what it says on the record.
THE COURT: There is a viewer here, Doctor.
THE WITNESS: Thank you.
BY MR. GAYLORD:
Q. I don't know if it gets better or worse when I do that.
Exhibit 902. Doctor, this one shows somebody with an initial "GS" as the person who read the film.
A. Yes.
Q. Do you see that? Do you know if "GS" is a physician?
A. I would have no idea.
Q. The way things are done, in your experience, is "GS" probably a physician?
A. In my area, complete names and degrees are put onto every x-ray report.

Q. Okay. I'm going to ask you to assume that all of these films were read by physicians at HealthFirst. Do you know whether the physicians who read these were board certified?
A. I would have no idea.
Q. Do you know whether the physicians who read these were well-trained, well-qualified local physicians?
A. I have no idea.
Q. It hasn't been any of the intent of your testimony to suggest otherwise, has it?
A. No, it hasn't.
Q. And you agree with the findings by "GS" on December 11, 1984 that there was no significant abnormality on these films?
A. I can't see it from where I'm sitting, but I think they did talk about the blunting of the costophrenic angle, which we mentioned, and I dismissed as a nonsignificant finding.
Q. You agree with them if they have dismissed it as a nonsignificant finding?
A. From my own interpretation, I made it a nonsignificant finding, but I do agree with their interpretation.
Q. Okay. And next, again, I'm sorry, all we

have is an initial, but a film, chest film of 3/4/86.

Is that focused at all? I can't tell from here. Okay.

Doctor, did you review this film?

A. What is the date?

Q. March of '86. March 4 of '86.

A. I believe so, yes.

Q. You didn't see anything abnormal about this film?

A. No. I can't read the report from where I'm sitting.

Q. You are welcome to come down and look at it here. Actually, I can put this TV over here.

A. The print is pretty small.

Q. Come over here and see it on the viewer, if you like.

A. I agree with that report, yes.

Q. Okay. Next in the order of things is the chest x-ray of October 28, 1991. Again, I'm looking for identification of the author of it.

It says "RAP" on here. And you would interpret that form of notation as suggesting that it was a report was dictated on October 29, 1991, and somebody that put the small initials "RG"

probably typed it up, wouldn't you?
A. I think that would be a reasonable conclusion. I have no evidence that's the way they do things.
Q. You don't know who "RAP" is?
A. I sure don't.
Q. You don't know if RAP has board certification and full qualifications like you have?
A. No, sir, I do not.
Q. But you are here telling us that "RAP" blew it?
A. I think there is a very subtle finding, and I think many radiologists could have missed it, but I think there is a finding on that lateral chest x-ray.
Q. When you say a finding like that is subtle, is it fair to say that that's a disputable finding among different radiologists?
A. No, I think "disputable" is incorrect. There is an abnormality, whether it is easily detectible or not is the question.
Q. You don't agree that there is any room for the possibility that that abnormality is insignificant?

A. I think it represents an integral change from the previous chest radiographs, and I certainly would not want to dismiss this abnormality in a patient with hemoptysis.

Q. Next, we have a report of chest x-rays 1/22/96, and you have talked to us about the fact that there is a label on these films that says 1/22, but the films are 1/23, or is it the other way around?

A. I believe the films were obtained on 1/23.

Q. Okay. The report was dictated on 1/24/96. That's consistent with the date really being 1/23?

A. The flasher on the film is probably the more accurate date. It's one day, either way.

Q. Do you know who Jane E. Bedell, M.D. is?

A. No, I do not.

Q. Do you know if Jane E. Bedell, M.D. is a fully trained, board-certified, well-regarded local radiologist in the diagnostic radiology field in Portland, Oregon?

A. I have no idea.

Q. But you do know that in your opinion Jane E. Bedell blew the diagnosis on January 22, 1996?

MR. SIRRIDGE: Objection. I think that is argumentative.
THE COURT: Overruled. Go ahead and answer.
THE WITNESS: I think the diagnosis of lung cancer was not correctly reported on the films from January of 1996.
BY MR. GAYLORD:
Q. Well, in fact, there is no diagnosis of lung cancer reported on those films because Dr. Bedell says no such finding is there, right?
A. That's the dictation, correct.
Q. A month later on February 23, 1996, Dr. Bedell reads another set of films -- I'm sorry, I think I have got that out of order.
A. The January film should have been read first.
Q. I thought there was a separate one for -- for the addendum that is just comparing. Give me a minute.
Let's go with this one next.
February 23, 1996; clinical data, cough. This is a Dr. Donna S. Launey, L-A-U-N-E-Y. Do you know anything about Dr. Launey?
A. No, I do not.

Q. Do you know if she is a fully trained, board-certified diagnostic radiologist respected in the local medical community?
A. No, I do not.
Q. But we know from your testimony that she, too, blew the diagnosis on February 23, 1996?
A. I believe that her dictation did not have a statement regarding the abnormal findings which I observed on the test.
Q. Okay. And then again, this is the one I started to put on here and have out of order. This is referred to as an addendum to PA and lateral chest from 2/23/96, and you interpret this as meaning, here, about a month later somebody came back and compared the January and the February films, and they wrote an addendum because there isn't any new film to be interpreted?
A. That's correct.
Q. And this, again, is Jane E. Bedell, M.D. And Dr. Bedell is telling us that she personally compared the x-rays of January of '96 and February of '96 that you have told us were both misread and she reads them in comparison and doesn't find any sign of cancer.
A. That's her observation.

Q. Okay. So we have a series of instances where several different local physicians who you don't know anything about the qualifications of dispute, don't they, your findings and interpretations of the films that you have read to this jury?

MR. SIRRIDGE: Objection, Your Honor. Argumentative.

THE COURT: Rephrase the question.

MR. SIRRIDGE: It misstates the testimony.

THE COURT: Whether it misstates the testimony is for the jury to decide. I am sustaining the objection as argumentative.

BY MR. GAYLORD:

Q. Well, maybe I took too much for granted, Doctor.

I would ask you, I guess, are you standing ready to defer to the readings of these local physicians who saw the films of this man over a period of years and compared one set to another and knew about the clinical picture and applied their expertise as board-certified radiologists and came to different conclusions than you did? Would you defer to their opinions?

A. No, I would not.
Q. Then you do dispute what they found, and say they are wrong?
A. I do not believe that their interpretations correctly identified the findings which I showed the jury.
Q. I want to ask you about a slightly different subject, because you told us some things that sounded like they are kind of outside diagnostic radiology. And I understand that you are applying your basic knowledge from other parts of your work.
When you were telling the jury about this word "mucoepidermoid carcinoma," you weren't saying that you can read these films and say, "Aha, that's a mucoepidermoid carcinoma," were you?
A. That is correct.
Q. Putting words like that on a kind of tumor is something that medical science needs pieces of tissue to look at closely in order to do that?
A. That's correct. And that's why I made my interpretation with the results of pathology.
Q. And that kind of descriptive term for a

tumor is what pathologists do, not radiologists?
A. That's correct.
Q. What I'm not sure, and what I need to ask you about is, have you looked at the pathology report in this case?
A. I have looked at the pathology report, yes.
Q. Do you know anything about Daisy Franzini, M.D.?
A. No, I do not.
Q. Do you know if she is the chair of the pathology department over at Legacy Good Samaritan, Emanuel Hospital?
A. I never heard of that of doctor.
Q. Do you know Dr. Ken Oyama (phonetic)?
A. No, I do not.
Q. Do you know if he is a board-certified, well-respected local clinical pathologist?
A. No, I do not.
Q. Do you know if he has got years of experience reading slides from lung cancer tissue?
A. No, I do not.
Q. Similarly with Daisy Franzini, you don't know if she is a highly respected, board-certified pathologist?

A. No, I do not.
Q. Are you expressing an opinion to this jury that there is something wrong with their reading of the pathology in this case?
A. I'm not making a judgment on the interpretation of the pathology.
Q. Is diagnostic radiology an unusual specialty?
A. No, it is not.
Q. Is it a specialty that's common in every American city that has modern medicine practices?
A. I would think that there would be radiologists in almost every hospital in the country, yes.
Q. And would you agree that every major hospital, every major medical center probably has a large group of trained, board-certified, experienced diagnostic radiologists?
A. Most places -- I don't know what you mean by "large size." Most places have a group practice.
Q. Okay. I ask you to assume in Jesse Williams' case we have identified -- I didn't go through the rest of them. I will ask you to assume that there are seven different named

radiologists who were involved in the diagnostic radiology readings of Jesse Williams' case just at HealthFirst Clinic during the time we have been talking about.

Is that an unusual number of diagnostic radiologists to have at hand in a single clinic in downtown Portland?

A. I don't know the size of the hospitals in Portland. My group is 60-something radiologists.

Q. Between here and Pittsburgh do you think there are 50,000 radiologists that do diagnostic work?

A. I think that number is way too high.

Q. 20,000?

A. I don't know the number of diagnostic radiologists in this country.

Q. One of the things that I think you were telling us about, the posterior tracheal stripe.

A. Yes.

Q. And that term seems to be a very significant part of what you based your opinions on today.

A. Yes.

Q. Posterior tracheal stripe, would you agree that's something that a lot of diagnostic

radiologists don't really pay any attention to?
A. I can't make comments on other radiologists.
Q. You don't know one way or another whether that's considered something that most radiologists don't pay any attention to because it doesn't have a lot of significance?
A. It is something that I teach all of my residents very well every year.
Q. Is that sort of a special interest of yours, the posterior tracheal stripe?
A. No, it is not.
Q. Part of what you told us about it is that you thought it was thickened or changed in size on the films in Jesse Williams' case.
A. No, it was partially obliterated by an abnormal capacity in the superior aspect of it.
Q. Is that the only difference that you saw of it, that you couldn't see at all clearly in the later films as you could in the early films?
A. In the film from 1991, it was a very small finding. In the films from 1996, January and February, I believe it was an obvious finding.
Q. On the '91 film, you say "a very small finding." I'm not sure what you mean "small."

Small in size?
A. 1.8 centimeters, I believe, is a rough estimate. It is maybe a difficult perception if you don't look for it.
Q. You agree it might be kind of an iffy finding?
A. No, I don't. It is a definite finding. Whether you observe it or not is the question.
Q. Okay. When you refer to the posterior tracheal stripe, you have told us it is sort of a whiter-looking line on the x-ray.
A. That's correct.
Q. And white stuff on the x-ray is where more dense tissue is appearing and blocking more of the x-ray that gets through to the film?
A. That's correct.
Q. And things like that structure show up and appear as a line oftentimes because we are looking through sort of the edge of a thin structure?
A. We are looking through a back wall of the tracheal, which is a cylindrical air-containing structure which has air on the inside and air on the outside, and you are tangentially going through the back wall of it, yes.

Q. And if you pictured that as sort of a small hose, what you are saying -- isn't that fair, the trachea -- I'm looking at the picture right beside you -- the trachea is a hose-shaped thing before it splits?
A. It is a stiff thing. A hose is something that is flexible.
Q. I'm only talking about shape right now.
A. It is a cylindrical shape structure.
Q. Let me see if I'm getting the picture here at all.
You can't see the back side of this trachea on this picture?
A. We can see a portion of it where it has been cut.
Q. Up here?
A. Up there. That's the membranous portion.
Q. But to get the view that you are saying is important on this x-ray, we would have to be looking from this edge of the picture and seeing the back of this hose, I'm calling it, in our --
A. That's correct. You see it on the lateral projection. You see the right peritracheal region on the PA and the posterior tracheal stripe on the lateral projection.

Q. I want to get an understanding of why it is that it shows up a little bit as a structure.

If we said this was a piece of that sort of hose-shape structure, just to have a cylinder to talk about -- can you see it well enough?

A. Yes.

Q. Now, I'm going to take that same object and lay it down facing us and maybe it disappears back like this. Okay?

A. Yes.

Q. Is that fair? Now, what makes it show up on the x-ray is the fact that the x-ray beam is showing through the side of it like this?

A. No, that's not correct. The reason you're seeing it, it is different radiographic densities between the air in the lung and the air inside of the trachea.

Q. Isn't it also that we're seeing -- it is like looking at the side of this on edge so we get more tissue in the way of it and it blocks some of the x-ray?

A. If you were to x-ray a cylindrical structure, the front and back end would appear as a lineal passing, yes.

Q. The x-ray beam in this drawing would be

going through the piece of paper like this?
A. I don't know what projection you are showing.
Q. It doesn't matter. If it is a tube, anyplace that you go through is the edge of the tube?
A. That's not correct in the human body because we have blood vessels on certain sides of the trachea that we don't have on the other side of the trachea. I don't think it is an accurate anatomic representation.
Q. Okay. Is it true that if a person in this picture is not perfectly 90 degrees, they are a little bit off one or the other, a little oblique -- that's a term that is used, isn't it?
A. Yes.
Q. Oblique. If they're a little bit oblique, that could skew the various --
A. Yes. None of the x-rays were oblique. They were well-positioned laterals.
Q. You are not telling us that you can say with exactitude that every one of those x-rays has the patient positioned in precisely the same location?
A. I think if you look at the ribs on the

thoracic spine, they are virtually identical.

Q. Okay. Every time Jesse Williams went to the radiology clinic over the course of these years, you believe that he was positioned precisely the same way?

A. The technologists are taught landmarks in the body position in patients. People should have reproducible films in between examinations. It is true in mammography. It is true in every portion of radiology.

Q. If well-qualified, board-certified local radiologists came into court to interpret their films and simply disagreed with what you have told us about the 1991 film, would you defer to them? Would you say they are wrong; you are right? Would you have a position one way or another?

A. I have a very strong position that I'm right.

MR. GAYLORD: That's all.

THE COURT: Redirect.

MR. SIRRIDGE: A couple of questions, Your Honor.

REDIRECT EXAMINATION

BY MR. SIRRIDGE:

Q. Dr. Fuhrman, Mr. Gaylord asked you about a number of radiologic techniques.

A. Yes.

Q. Talked about some of the equipment at your hospital.

A. Yes.

Q. Have you looked at x-rays made from all kinds of radiologic equipment in your career?

A. Yes, indeed. Many of the films at our institution, we read lung films obtained by working in steel -- 40 miles from Pittsburgh. We look at all sorts of films brought into our department from multiple radiologists from all over the city and western Pennsylvania.

Q. Why do you look at so many different chest films in your institution? Why do you have the volume you do?

A. We are a very, very big referral center for thoracic diseases across the country.

Q. And, Doctor, do you review -- did you review the radiology in this case just like you review every other case that you see?

A. Yes, I do.
Q. Mr. Gaylord asked you about the number of radiologists that are well-trained in this country. Tell me, Doctor, what portion of the group of well-trained radiologists in this country specialize in chest radiology?
A. It would be a very small number.
Q. So is there -- do you have any idea how large this society of thoracic radiologists is?
A. A few years ago I think we had approximately 400 members.
Q. Doctor, is the importance of the posterior tracheal stripe discussed in radiology textbooks?
A. Yes, it is one of the major mediastinum reflections that needs to be established on every chest radiograph.
MR. SIRRIDGE: That's all I have.
THE COURT: Thank you.
Jurors, we will take the afternoon recess. 15 minutes, please. Notes here. Don't discuss the case. Watch your step. 15 minutes.

(Open court; jury not present:)

THE COURT: Anything for the record?
MR. GAYLORD: No, Your Honor.
THE COURT: Thank you, Doctor.
(Recess.)

(Open court; jury not present:)

THE COURT: I understand, Counsel, you have a matter to raise before we bring in the jury.
MR. GAYLORD: I do, Your Honor.
THE COURT: Go ahead.
MR. GAYLORD: I'm not sure. I am sure that Mr. Sirridge is trying to tell me what he believes the limitations of Dr. Gould's testimony will be, but I'm not sure I can be satisfied with those limitations until I bring it up with Your Honor. So I guess what I am doing is in the nature of a 104 motion to place some limitation on that.
The limitation I would like to place is that Dr. Gould not be expressing opinions about causation or the relationship between cigarette

smoking and any particular lung cancer. I base that on his prior sworn testimony in a couple of cases. I will quickly read half a page of transcript from each of them.

One is the case of Karbiwynk versus R.J. Reynolds Tobacco in the Fourth Judicial Circuit of Florida. And the question on Page 11 was:

"In your view, have you ever found that what you reviewed, it was your opinion that the person had died or was suffering from a cigarette-related disease?

"Answer: I only reported on what I believed the pathology to be representing, but I do not claim any expertise on causation or relationship."

And then secondly in the case of Jimmy Cacton versus R.J. Reynolds Tobacco, February -- the other one was -- I should have given the date. That was September 15, 1997. This one is February 6, 1999, in Sumpter County, Alabama. These questions and answers, Page 34:

"Question: Do you plan on offering any opinions regarding cancer causation or the lack of causation as far as this being a carcinoid

goes?

"Answer: No. Causation is not an area of my expertise, no.

"Question: So you don't plan on offering any opinions as far as -- well, let me ask you this: Does cigarette smoking, in your opinion, cause lung cancer?

"Answer: As I told you a moment ago, I don't regard myself as an expert in the causation of tumor. My work has consistently been focused on the diagnosis.

THE COURT: Would you summarize, Mr. Sirridge, the positive side of Mr. Gaylord's concern? In other words, tell me what it is the witness will be asked to comment on and then I can better understand his objection.

MR. SIRRIDGE: His primary role, Your Honor, would be to come and explain to the jury his review of the pathology slide.

THE COURT: Speak up.

MR. SIRRIDGE: His review of the pathology slide and as to what specific cell type, in his opinion, the slide shows. That will be based on his pathological review, as well as his review of the medical records.

THE COURT: Is he going to offer an opinion about whether that particular cell type is causally related to cigarette smoking?

MR. SIRRIDGE: He can.

THE COURT: I'm asking you are, you going to ask that question of him?

MR. SIRRIDGE: I will not ask that question.

THE COURT: All right. What other question are you concerned that he might ask?

MR. GAYLORD: That would be it, if he will not be asked and will not answer that question.

MR. SIRRIDGE: But there is something called opening the door that Mr. Gaylord -- well, I'm sure will understand on cross-examination.

THE COURT: Right now, I am worried about direct, and you are telling me that you were not going to ask the witness to offer an opinion about a causal connection between whatever cell type he is going to tell the jury the pathology represents and cigarette smoking.

MR. SIRRIDGE: Correct.

THE COURT: If you believe that

Mr. Gaylord has opened the door, would you let me know that you have a matter for the Court and we can take it up outside the jury's presence?

MR. SIRRIDGE: Very good.

THE COURT: Anything else before we bring in the jury?

MR. GAYLORD: Any guess how long you'll be? Do you think you will be finished today?

MR. SIRRIDGE: I should be done, with a little luck, by 4:30.

THE COURT: Bring in the jury, please.

MR. SIRRIDGE: With a little luck.

(Open court; jury present:)

THE COURT: All right. Jurors, we are ready to continue.

Mr. Sirridge.

MR. SIRRIDGE: Yes. The defense would call Dr. Victor E. Gould.

THE COURT: All right. Dr. Gould, would you step here, please, to the witness chair.

VICTOR E. GOULD

was thereupon called as a witness on behalf of the Defendant and, after having been first duly sworn, was examined and testified as follows:

THE WITNESS: I do.

THE CLERK: Please pull the mike around. State your full name and spell your last name for the record.

THE WITNESS: Victor E. Gould, V-I-C-T-O-R, G-O-U-L-D.

THE COURT: Thank you, Counsel.

MR. SIRRIDGE: Thank you.

DIRECT EXAMINATION

BY MR. SIRRIDGE:

Q. Dr. Gould, where do you work?

A. At Rush Medical College in Chicago.

Q. What is your position with Rush Medical College in Chicago?

A. I'm a professor of pathology and senior surgical pathologist at Rush Presbyterian Medical Center.

Q. If you get dry at all, just go ahead and

take a break and have a glass of water or take a sip.

Doctor, before we get into your education and training, could you tell the jury what a pathologist is and what a pathologist does?

A. A pathologist is basically concerned with the study and diagnosis of disease in all its form based on examination of tissues, cells, body fluids and the like.

Q. Doctor, are there different types of pathologists?

A. Yes. There are three major branches of pathology: Anatomic pathology, which essentially deals with tissue examination. Clinical pathology, which deals with fluid examination; blood, urine, spinal fluid and the like. And forensic pathology, which deals with the legal aspects of medicine.

Q. And what type of pathology do you practice primarily?

A. Anatomic pathology.

Q. Dr. Gould, when did you become involved in this case?

A. In the fall of last year, 1998.

Q. And what were you asked to do?

A. I was asked to examine the material of the biopsy of Mr. Williams and eventually the medical records and related items.
Q. And did you also review the x-rays and CT scans?
A. Yes, I saw them.
Q. Yes. Doctor, I would like to get into your educational background. Where did you go to medical school?
A. I graduated from the National University of Buenos Aires in Argentina.
Q. And when was that?
A. 1957.
Q. And when did you move to the United States?
A. Right away.
Q. And what did you do in your medical career when you moved to the United States?
A. I first took a clinical internship in medicine and surgery, which was a custom in those days, for a year, at St. Joseph's General Hospital in Lexington, Kentucky. Then I moved to the University of Chicago, where I took my first two years of residency. And subsequently to New York where I finished my residency and fellowship at

Columbia University.
Q. And after your internship in general medicine, what areas were your residencies in?
A. I'm sorry, would you please repeat?
Q. After your internship in medicine, did you have an area of specialty in which you did your residency?
A. My residency was, in fact, in pathology, of course.
Q. And why did you choose pathology?
A. I chose pathology because as a medical student I had the opportunity to work in the research laboratory of the Department of Physiology of my medical school, and that was my first contact with science as distinct from the practice of medicine. And then eventually when I decided to, in fact, go into the practice of medicine, pathology offered me the opportunity to be able to do both: Medicine, and a sense of practice, and science as well.
Q. Dr. Gould, are you board certified in pathology?
A. Yes, I am.
Q. Are you also licensed to practice medicine in several states?

A. Yes, I am.
Q. Could you name those, please?
A. I'm currently licensed in Illinois, New York, Washington state, and Maryland.
Q. Doctor, I would like to talk about your academic work, your teaching work. Would you tell the jury where you first began becoming involved in the academic aspects of pathology and medicine?
A. During my first -- in fact, during my year of fellowship following my residency at Columbia, I started doing electromicroscopy, and as far as teaching was concerned, from the very beginning of my residency, I participated in medical student teaching.
Q. When was your first full academic appointment?
A. My first full academic appointment was assistant professor of pathology at the University of Washington in Seattle.
Q. When was that?
A. 1966.
Q. Did you stay in the same position at the University of Washington, or did you move up in terms of your rank?
A. No, I was promoted to associate professor

in 1969.
Q. And after the University of Washington, where did you continue your medical school career after that?
A. Well, my next academic appointment was, in fact, at Rush as full professor of pathology.
Q. This is Rush Medical College in Chicago?
A. In Chicago, yes.
Q. Could you tell the jury something about Rush Medical College in Chicago, what kind of an institution it is?
A. Rush Medical College, part of Rush University, is the oldest medical school west of the Alleghenies in the United States functioning since 1837. It is foremost exclusively on the biomedical sciences, and it has a school of medicine and it issues masters and doctorate degrees in various other branches of biology.
Q. Is Rush Medical College connected with a hospital or hospitals?
A. Rush Presbyterian St. Luke's Medical Center is the medical center of Rush Medical College.
Q. Could you give the jury some idea about Rush Presbyterian St. Luke's Medical Center, more

or less describe it.

A. When I first joined it almost 25 years ago, it was one of the three largest hospitals in the city. It had 975 active beds.

With a passage of time, and I'm sure as everybody in this court knows, the practice of medicine changed somewhat, and length of hospital stays and number of outpatient procedures grew and so on, the number of beds has decreased to at present, I believe, 575.

Q. Is Rush Presbyterian St. Luke's Medical Center something called a referral center?

A. Yes, it is.

Q. And what does that mean?

A. A referral or a tertiary medical center generally refers to including a number of groups that focus in particular in either one disease or groups of diseases in which teams of people highly specialized in that, treat it with great frequency, and therefore, particularly difficult or problematic cases from other institutions are referred to.

Q. Doctor, in your role at Rush Medical College and the hospital, do you teach medical students?

A. Yes, I do.
Q. In what areas?
A. I lecture on pulmonary pathology and several other tumor groups, in fact.
Q. Do you also become involved in teaching post-graduate medical students in their study of pathology?
A. That is, in fact, and has been for a number of years my main teaching job is, in fact, the work with residents.
Q. And give me an idea, Doctor, of how many people are on the staff, the pathology staff at Rush Presbyterian.
A. The pathology staff currently consists of 12 people.
Q. 12 people who are all pathologists?
A. Yes, all of them board-certified pathologists.
Q. And how many residents and fellows in pathology?
A. There is a total of 18.
Q. And are those the people that you were referring to when you were saying that is one of your main involvements in teaching?
A. It is the main involvement, yes.

Q. Doctor, give the jury an idea of a regular workday at Rush Presbyterian working as a pathologist. What would your duties and responsibilities be?

A. It would depend on the kind of rotation that I am at a given time. If I'm on the regular surgical rotation, I would arrive at about 7:30, the slides would have been -- some of the early slides would have been out for about an hour. The residents would have already had the chance to look at them, and I simply sit down with whoever the residents for the day are and start looking at the cases.

Q. And how many pathology --

A. I'm sorry. I wasn't finished.

The other type of rotation is one that takes place in the laboratory itself, and that deals with frozen section examination. In other words, it deals with specimens, samples removed from the patient while the operative procedure is taking place. And so that is a particularly heavy responsibility. So an individual will do that only during that particular day.

Q. Doctor, give the jury an idea of how many pathology diagnoses are made at Rush Presbyterian.

A. It will vary somewhere between a minimum of 80, 85 cases to 140, 150, to the tune of roughly 24-, 25,000 a year.

Q. And will some of those cases involve lung cancer diagnoses?

A. Yes, it would.

Q. Doctor, is there a mechanism by which the Rush Presbyterian Hospital pathology department tries to make certain that the diagnoses are correct and that they are verified? Do they have that kind of process?

A. Yes. Since for a number of years we have had a conference in which the interesting or problematic cases of the day are examined. Since 1990 that was formalized into a meeting to which attending physicians only will attend in a multiple-headed microscope. And during that meeting that takes place every day at 2:30 in the afternoon; namely, when the bulk of the cases have already been seen, every first-time diagnosis of malignancy will be examined. And those individuals that are signing up cases during that day are invited to bring whatever other cases may have been of interest or particular teaching value.

Q. Doctor, I'm going to switch gears and ask whether you perform medical research as a pathologist?
A. Yes, I do.
Q. And is there a specialty where you perform the research in?
A. My research has consistently been focused on tumor diagnosis.
Q. When you say "tumor diagnosis," does that include cancer diagnosis?
A. Of course. In that context I was using it as synonymous -- the same thing.
Q. Doctor, in your research projects, where does the funding come from for those projects?
A. That has varied. Through the years, initially, when I was also a member of a very basically oriented research team at the University of Washington, my funding came from the National Institute of Health, National Cancer Institute, and subsequently has come from various foundations and pharmaceutical companies and so on.
Q. Doctor, is lung cancer one of your medical research interests?
A. Yes, it is.
Q. Can you estimate what percentage of your

research efforts involve lung cancer?
A. I think that lung tumors constitute the single most frequently recurring theme in my publications.
Q. Doctor, so I can move this along just a little bit, I'm going to ask you whether, because of your research and other work, have you been invited to give lectures at various medical schools in the United States?
A. Yes, I have.
Q. You really can't see it on that monitor. But there are some 20 or 30 medical schools where you have been asked to lecture?
A. Yes, I'm sure that's true.
Q. I'm going to also ask you, Doctor, whether you have also been asked to lecture at various universities around the world?
A. Yes.
Q. And I won't read through these, but, Doctor, there are approximately 50 universities around the world where you have been asked to lecture in pathology?
A. That is true.
Q. And often are those lectures dealing with lung cancer pathology?

A. Often, indeed.
Q. Doctor, are you a member of professional societies in the field of pathology?
A. Yes, I am.
Q. Are some of those societies the following: The United States and Canadian Academy of Pathology?
A. Yes, it is.
Q. The Arthur Purdy Stout Society for Surgical Pathology?
A. Yes.
Q. The International Association for the Study of Lung Cancer?
A. Yes.
Q. And are those societies where you need to be invited to join?
A. Yes.
Q. Doctor, I would like to move back to your medical and scientific publications and ask generally how many papers, how many articles have you published in the scientific literature?
A. If you deal with original research papers in peer review journals, it will be probably in the range of 220 or so. Dealing with chapters or books or parts of books, probably in the range of

30 to 40.
Q. Have you served as an editor of scientific journals before?
A. Yes, I have.
Q. Are those journals in the field of pathology?
A. Yes, they are.
Q. And have you also served on the editorial boards of pathology and medical journals?
A. Yes, I have, and I do.
Q. And what kind of responsibilities do you have as an editor or on the board of editors on medical journals?
A. As an editor, as a member of the board of editors, then you are sent research papers written by other colleagues and you are asked to judge their validity and suitability for publication.
Q. Doctor, have you ever testified in any tobacco trial before?
A. Yes, I have.
Q. How many times?
A. Twice.
Q. Pardon?
A. Twice.
Q. When was that?

A. One in a number of years ago, at least ten years ago, and the other about three years ago.
Q. Doctor, you have also reviewed cases involving -- tobacco cases?
A. I don't recall exactly, but it would be probably in the range of 10 to 15.
Q. And over what period of time is that?
A. Some 15 years.
Q. And what percentage of your time is spent reviewing legal cases?
A. Difficult to be sure, but minimal. Sometimes months or even a couple of years would go by and I wouldn't see anything.
Q. Doctor, are you planning to submit a bill for your consultation on this case?
A. Yes, I am.
Q. And what is your hourly rate?
A. $500.
Q. And how much time have you spent reviewing matters and issues in this case?
A. Again, I'm not sure, but up to now I would say in the range of eight to ten hours.
Q. Doctor, is it your practice to contribute a portion of your expert consultation fees to the

research fund at your hospital?
A. Yes.
Q. Let me switch back to your daily activities as diagnosing pathology, Doctor. Are you asked to make cancer diagnoses on a daily basis?
A. Yes.
Q. Could you give us, the jury, an idea of your experience with lung cancer? In other words, how many cases of lung cancer would you be asked to be involved in the diagnosis in each year at Rush Presbyterian Hospital?
A. If you consider the material that -- the biopsies that are obtained within our institution itself, it will range between 150 and probably 250 a year. And probably an equal number of patients are referred to us and whom biopsies have already been performed, but we are asked either to consult on the diagnosis or the patients are referred for treatment. In either case, we review the biopsies again.
Q. Let me get an explanation for this. Why are lung cancer cases referred to Rush Presbyterian St. Luke's Medical Center?
A. Because we have had and we continue to

have one of the best thoracic surgery services in the Midwest. And, in addition, there are several people in the oncology department who focus exclusively on the treatment of tumors of the lung.

Q. Dr. Gould, can you give an estimate on the number of lung cancer cases that you have diagnosed in your career?

A. Using a bit of those numbers that I just gave you, and adding the fact that in my initial years in pathology, at least a couple of thousand autopsies a year were performed which a respectable percentage were cancer of the lung, I would guess the total would be somewhere in the range of 10- to 12,000.

Q. Doctor, do you see all types of lung cancer at your institution?

A. Yes.

Q. And is lung cancer broken down in the field of pathology by what is called cell type?

A. As is the case with cancer of every other organ in science, the answer is yes. Yes, they are broken down.

Q. Is there an international classification of lung cancer that is used primarily in this

country, the world?
A. Yes. Primarily most people will use the classification of WHO, World Health Organization, or slight variances or modifications or updates, yes.
Q. Let me show you I hope what has been marked, but it hasn't.
MR. GAYLORD: No objection, Your Honor.
BY MR. SIRRIDGE:
Q. Dr. Gould, I'm showing you what has been marked as Defense Exhibit 923, and ask you whether you can identify this.
A. Yes. That is, in fact, the WHO, World Health Organization classification, histological classification.
MR. GAYLORD: That's for demonstrative purposes only when I say "no objection."
MR. SIRRIDGE: Yes.
BY MR. SIRRIDGE:
Q. Dr. Gould, I'm going to set this exhibit over there. But in the meantime, I'm going to ask you whether there are a number of common types of lung cancer and uncommon types of lung cancer?
A. Indeed.
Q. Could you tell the jury what the main

types of -- the most common types of lung cancer are?

A. The most common types of lung cancer are the squamous carcinomas, small cell carcinomas, adenocarcinomas, and large cell carcinomas.

Q. Let's back up one second. What does the word "carcinoma" mean?

A. "Carcinoma" is often incorrectly used as synonymous with cancer. Carcinomas are all cancers, of course, but not all cancers are carcinoma. "Carcinoma" means a cancer, malignant tumor from epithelial tissues.

Q. Where do epithelial tissues occur in the body?

A. Epithelial tissues occur fundamentally in two forms. They are either lining the inner cavity of organs, such as the stomach or the bowel or the bladder or the uterus. Or they occur in the form of solid glands, such as the liver or the breast or the pancreas.

Q. Doctor, is there a type of lung cancer called adenosquamous carcinoma?

A. Yes, there is.

Q. Is that a common or uncommon type?

A. It is an uncommon type of lung cancer.

Q. Would other uncommon types of lung cancer be carcinoid tumors?
A. Carcinoid tumors are often put in that classification because they offer important problems of differential diagnosis, but carcinoids are not, by definition, carcinomas.
Q. Are types of carcinoid tumors malignant?
A. Some variance of carcinoid tumors may be malignant, yes.
Q. Doctor, are bronchial gland carcinomas uncommon types of lung cancer?
A. Yes, they are.
Q. Have you seen all of these -- in your practice diagnosing lung cancer, have you seen all these common and uncommon types of lung cancer?
A. Yes, I have.
Q. Can you give the jury an idea of what percentage of lung cancers, for example, adenosquamous carcinoma might represent?
A. It would depend a little bit on how strict the pathologist is with the definition, but I would say that it is very uncommon. Certainly in the range of 2 percent or less.
Q. Doctor, how would you define or describe adenosquamous carcinoma of the lung?

A. It is a carcinoma in which there is an up-mixture of differentiation showing squamous characteristics and glandular characteristics, and it is a very aggressive tumor that characteristically occurs in the periphery of the lung.

Q. And the periphery of the lung is the outside portion of the lung?

A. That is correct.

Q. Doctor, can experienced pathologists differ in their interpretation of adenosquamous carcinoma?

A. Yes, they would. Or any other carcinoma, for that matter.

Q. Now, are you familiar with something that pathologists call interobserver variability?

A. Yes, I am.

Q. Could you explain what that term means to pathologists?

A. I think it is very simple. As the words imply, if you take a group of similarly qualified pathologists, say 10 or 20, and you have them examine the same material, in some -- in most cases, of course, there will be complete agreement. But there will always be a small

percentage of particularly problematic cases in which the agreement will be less than complete.

Q. Doctor, there has been testimony in this case about the term "poorly differentiated" as it applies to pathology. Could you define that term for the jury?

A. We all know what the word "difference" means. It means that something or somebody is not quite the same as something else or somebody else, so it means that they are not the same.

Differentiation, when you talk about cells and tissues, implies in the case of tumors how similar the tumors are from those cells or tissues from which they arose. So a poorly differentiated tumor is one that differs, that is very different from those cells or tissues from which it arose.

Q. Now, Dr. Gould, can experienced pathologists run into problems in agreeing on poorly differentiated carcinomas?

A. Yes. In fact, it is those tumors, the poorly differentiated carcinomas, that will most frequently give rise to disagreement.

Q. There would be interobserver variability?

A. Indeed.

Q. Dr. Gould, when you have a diagnosis or are considering a diagnosis of adenosquamous carcinoma, do any other bronchial carcinomas come to mind as diagnoses?

A. Yes. I think the classical differential diagnosis will be a high-grade mucoepidermoid carcinoma.

Q. How would you define a high-grade mucoepidermoid?

A. Distinct from adenosquamous, mucoepidermoid are characteristically central tumors. In other words, they occur in the central parts of the bronchi, and they are also including enough mixture of cells of squamous and glandular differentiation. Distinct from adenosquamous carcinoma, they do not have well-defined glands, nor will they have characteristically the pearls that both of which are seen in squamous. In other words, that definition includes positives and negatives.

Q. Does the term "high grade" have anything to do with poorly differentiated?

A. I think that in general they would run parallel. The higher the grade, the less the differentiation, the poorer the differentiation,

and vice versa.
Q. So mucoepidermoid carcinoma is high grade compared to what?
A. To a mucoepidermoid carcinoma of low grade. And those, for the most part, are very indolent tumors. In fact, some of them are so indolent that some people suggest that they be called tumors rather than carcinoma, and the majority of which are cured with local resection only.
Q. What does the term "indolent" mean?
A. I'm sorry?
Q. What does the term "indolent" mean?
A. Slowly growing, in this case.
Q. Doctor, are you familiar with the term "differential diagnosis"?
A. Yes, I am.
Q. And what does that mean to you, as a pathologist?
A. Whenever you are confronted with a case, any case, and particularly a difficult case, you make either in your mind or you make notes of what you see, the features that you see, and those that you do not see, and very often most of them will fit more than one diagnosis.

Clinicians will do the same thing when they see a patient that has fever and this and that. So it is not just pathologists that do differential diagnosis.

And so you try to obtain all the information that you can about the case and you gather as much of that as you possibly can until you decide that the case fits much better one category or another.

Q. Doctor, is mucoepidermoid carcinoma high grade in the differential diagnosis for adenosquamous carcinoma?

A. Yes, it is.

Q. And what does that mean?

A. That, as I mentioned to you before, although there are very important differences between the two, there are some similarities. So that if you deal with an incomplete information or you are not certain about some of the features, that the two of them would have to be considered.

Q. Let me see if I can summarize this.

If a pathologist is considering a diagnosis of adenosquamous carcinoma, would he or she also consider a diagnosis of mucoepidermoid carcinoma high grade?

A. The answer is yes.
Q. And is the opposite true?
A. And the other way around as well, yes.
Q. Now, are there any other differential diagnoses that come to mind when you are considering mucoepidermoid carcinoma high grade or adenosquamous carcinoma of the lung?
A. No. I think that in the case of the lung, that takes care of it.
Q. And why is that?
A. Because they are sufficiently different from all other tumors that are known to exist in that particular science.
Q. How does a pathologist go about telling the difference between mucoepidermoid carcinoma high grade and an adenosquamous carcinoma?
A. Well, as I suggested before, you, of course, examine the biopsy and you try to gather as much other information as you possibly can. You may consult the bronchoscopist or the thoracic surgeon that examined the patient, where the tumor is, how much of it is there. And you certainly will consult your radiologist or the x-rays and where the tumor is located. Is it spreading in one direction or another, are there metastasis, so

on, so forth.
Q. So the clinical information would be important in your analysis?
A. Oh, terribly important.
Q. Now, you mentioned earlier, Dr. Gould, that you have reviewed some pathology material in this case.
A. Yes, I have.
Q. And I'm going to hand you Defense Exhibit 866 and ask you whether you can identify this slide.
A. Yes, I can.
Q. Would you tell the jury what it is.
A. It's the bronchial biopsy of Mr. Williams.
Q. And do you know how that slide was made, what it was made from?
A. From material obtained during a bronchoscopic examination.
Q. And how does a bronchoscopic examination take place?
A. After --
Q. Excuse me a second.
Would it assist you to see Defendant's Exhibit 919 in terms of explaining a bronchoscopy?

THE WITNESS: May I?
THE COURT: Sure.
THE WITNESS: Well, if you imagine the head of the patient somewhere here, after proper anesthesia, a flexible tube will be introduced from the -- through the nose and will go back into the pharynx, the voicebox; namely, the larynx would be here. That would be going through, and eventually they will enter the main windpipe or the trachea, will go down, and will enter either one bronchus or the other or both.

BY MR. SIRRIDGE:

Q. Thank you.

Now, were there any other materials available, according to the medical records, for review in pathology?

A. There was cytologist material that was obtained in the same examination.

Q. Did you review those cytology slides?

A. No, I have not.

Q. Why haven't you reviewed those?

A. I think in this case the diagnosis is by -- are far best established on the tissue sample.

Q. And do you normally review cytology

slides at Rush Presbyterian?
A. I normally look at cytology slides as part of our quality control, yes, I do.
Q. Are you considered a cytologist or a tissue diagnosis specialist?
A. No. My specialty is tissue diagnosis, indeed.
Q. Doctor, have you reviewed the slide which is marked Defense Exhibit 866?
A. Yes, I have.
Q. Let me step back for just a second, Doctor.
Are the opinions that you are expressing here today, are they to a reasonable degree of medical probability?
A. Yes, they are.
Q. Let me ask you, Doctor, do you have an opinion as to the type of cancer that Mr. Williams had?
A. Yes, I believe he had a mucoepidermoid carcinoma of high grade.
Q. And why have you reached that conclusion?
A. Based on my examination of the slide that you have in your hand and the review of the bronchoscopic report and the radiology report.

Q. Doctor, did I ask you to make pictures of the slide for discussion here today?
A. Yes, you have.
Q. I'm going to show you what have been marked three different exhibits. The first is Defense Exhibit 866 -- actually, they are all Defense Exhibit 866. They were all made from Defense Exhibit 866.
THE COURT: We need to number them separately, Mr. Sirridge.
MR. GAYLORD: I have no objection to them for demonstrative purposes, assuming we can have some access to them.
THE COURT: Yes. Of course you can have access to them. And whatever your next numbers, you should put on two of them.
MR. SIRRIDGE: I will do just that.
Your Honor, I think I should do all three since 866 is the slide.
THE COURT: Great.
BY MR. SIRRIDGE:
Q. Defense Exhibit 924, Defendant's Exhibit 925, and Defendant's Exhibit 926. Dr. Gould, I'm going to show you these exhibits. First of all, I'm going to show you Defense Exhibit 926. Can

you identify this?
A. Yes, I can.
Q. What is it?
A. I think the first one is a photograph of the entire glass slide with all the tissue fragments. And the next -- the other three are photographs that are enlargements, of course, of photographs that I took.
Q. Is this a true and accurate representation of what you saw under the microscope?
A. Indeed, it is.
Q. I'm going to ask you to identify both Exhibits 924 and 925.
A. These, again, are enlargements of photographs of the slides that I also took.
Q. Is the same true of Defendant's Exhibit 925?
A. Yes, it is.
Q. Are both of these accurate representations of what you saw under the microscope?
A. Yes, they are.
Q. Would it be helpful for you, Dr. Gould, in explaining what you saw under the microscope in

making your diagnosis to use these exhibits and discussing them with the jury?

A. I think they would.

Q. Would you step down, please.

A. (Witness complies.)

Q. I think I'm going to start with Defense Exhibit 926, and could you explain this to the jury?

A. These are two levels, two cuts of the same paraffin block. In other words, these two are virtually identical. And these minute fragments represent, of course, the entire tissue that was obtained. So this is simply to give you an idea of the amount that was taken.

Q. Now, Doctor, is this a blown-up picture here, the left-hand corner of the exhibit of this slide?

A. Yes. Yes. This is exactly it.

Q. All right. Would you continue, Doctor, and explain what the next picture is.

A. The next is a low-magnification, low-power photograph representing some probably 85, 90 percent of this. In other words, all that I could encompass within the field that will allow me to take a photograph.

And it includes the single fragment that consists of tumor. This is normal bronchial mucosa here. And this is blood. And this is a small clot, and this is a small clot. And this is blood, and this is blood. And these are simply disintegrating fragments as the tissue is slightly falling apart.

And so the only fragment, the only piece of these multiple little tidbits that you see that, in fact, consist of tumor is this one.

Q. By the way, Doctor, how do you go about photographing a slide?

A. It is very simple. It is a conventional microscope which a camera is attached.

Q. All right. What is the lower left-hand corner a picture of?

A. We are taking larger and larger and larger enlargements of the same field. And, as you can understand, the more that you enlarge the field, then the smaller it becomes. As you get closer to a person and you take the same picture, less and less of that person will be shown in your field.

So this is the whole thing. This is about 70 or 80 percent of the tumor fragment,

which shows you right here in the center a normal gland, a normal -- a gland that has been trapped within the tumor, and all of this surrounding it is tumor. And this is a slightly higher power that shows you a bit more clearly the normal gland that has been surrounded and trapped within the tumor and the tumor itself.

The tumor itself is solid, as you can see right here and right here and right here. That is best seen at low power. And there is no gland formation, which is important. Other than this one, which is normal. It is not part of the tumor.

Q. Doctor, I'm going to show you what has been marked as Defense Exhibit 924. And I will pull this over and put them side-by-side so everyone can see and ask you what that represents.

A. This one, of course, is a repeat of that one, and it simply helps you to be guided. And here we are slowly changing the objectives. So it is like a zooming lens. You're getting a higher and higher magnification, so you are seeing relatively less of the tumor. But at the same time it allows you to see the cells in greater details. It is, indeed, a solid tumor.

And you begin to see ever more clearly as you move it into the higher magnifications and the higher power that some of the cells are rather -- have rather pink cytoplasms, various others have very clear cytoplasms, and others have these little holes that I hope you can see. This is the highest I can go and still get a clear picture.

So there are very pale cells, as you can see here, and very pink cells. They differ from one field to the other.

Q. Doctor, why are some of the cells darker pink than those that are lighter pink?

A. The cells that are pink in this case contain a filamentous protein, which is carotene, which will take the eosin very intensely, and therefore will stay in various shades of red or pink. Whereas the paler cells, or the cells that have these little holes, these little vacuoles, are the cells that are secretory cells that contain mucin and mucin, of course, does not have the affinity -- is not as friendly as that pink dye, and therefore, will remain uncolored.

Q. I'm going to show you one last picture. If you could explain to the jury why you took this picture and what it represents.

A. This one shows an even greater detail what you have just saw. You have see some of these holes. This is an enlargement of the previous one taken with the same lens, and I think this one shows very clearly the vacuoles or the holes of some of the cells, whereas others are pink, and it also shows very well the presence of mitoses.

Q. What is mitoses?

A. Mitoses is a mechanism wherein the cells will simply divide and give rise to adultered cells; sometimes two, sometimes more.

Q. What are the characteristics of mucoepidermoid carcinoma high grade in these pictures that you saw?

A. It is precisely what I point out in the description, the mixture of cells that have squamoid characteristic, mainly they are pink and the same. Some of those are in between or those that are either totally white or vacuolated. In other words, mucoepidermoid. Mucoepidermoid being the same.

Q. Doctor, does adenosquamous carcinoma of the lung have different characteristics than mucoepidermoid high grade carcinoma?

A. Adenosquamous carcinoma will have a distinct arrangement of the pink cells in the formation of structures known as carotene pearls which, of course, we don't see. And the glandular difference, instead of being seen at the individual cell level, you will actually see poorly formed glands or tubules, which you don't see in this case.

Q. Doctor, I'm going to show you a couple of exhibits that have been premarked. Perhaps they weren't premarked.

The first one is Defendant's Exhibit 927 for demonstrative purposes, and the other is Defendant's Exhibit 928 for demonstrative purposes.

THE WITNESS: Was I in your way?

JUROR: You are doing fine.

MR. GAYLORD: No objection for that purpose, Your Honor.

THE COURT: Thank you.

BY MR. SIRRIDGE:

Q. Dr. Gould, I'm going to show you what have been marked as Defense Exhibits 27 and 28 and ask you if they would be of assistance to you in explaining to the jury the differences between

adenosquamous carcinoma of the lung and high-grade mucoepidermoid carcinoma. Would they be of assistance?

A. Yes, they would. They are essentially listings of the main criteria to establish, in fact, what we were talking about before; namely, the differential diagnosis.

Q. Hold on a second, Doctor, and I will have as a reference Defense Exhibit 919 that we had seen on several occasions, and ask you to start out with the pathology of adenosquamous carcinoma. And I will ask you, Doctor, to go through the characteristics of adenosquamous carcinoma.

A. Well, as I mentioned before, characteristically adenosquamous carcinoma is in the periphery; namely, in the outside part of the lung. That's No. 1.

No. 2, it will rarely, if ever, show a growth within the lumen of the bronchus. It will not for one reason being that, of course, the bronchi are extremely small once you go to the periphery. And the squamous differentiation, as I said, will not be shown at the individual cell level as the case with mucoepidermoid, but will be shown in the way of carotin pearls which, of

course, with prominent cytologic atypia, we did not see.

Thirdly, the glandular, the adeno part of the definition, the glandular differentiation will comprise either acini or papillary or tubular structures, or a cocktail of all three, which, of course, we did not see in this case. And that's why I said before how strict you are on the definition.

Conventionally, it is required that at least 5 percent of the tumor will show on each one and often will show bronchial epithelial inside the bronchial epithelial atypia. And, of course, as all malignant tumors will show mitoses, often extensive necrosis, large areas of the tumor that are dead -- "necrosis" meaning dead in this case -- and very prominent cytological atypia; namely, the cells will look very, very different from each other.

Q. Let me ask you, Dr. Gould, in thinking and reflecting on Mr. Williams' case, I would like to go through these characteristics.

Was Mr. Williams' cancer located in the periphery of the lung?

A. No. It was as central as can be.

Q. Now, a characteristic here, this rarely occurs inside the airway. Was Mr. Williams' tumor inside an airway or outside an airway?
A. Yes, it was.
Q. It was --
A. It was inside the airway in the case of Mr. Williams.
Q. This is a no.
Was there squamous differentiation with pearls and/or intercellular bridges?
A. No.
Q. Was there glandular differentiation with acinar, papillary and tubular structures?
A. No, there were no such differentiation. And, as I showed you, that single gland that was there was a normal bronchial gland that had been trapped by the tumor.
Q. And was 5 percent of Mr. Williams' tumor, did it contain each type of differentiation?
A. Well, given that three and four are not there, this one wouldn't apply at all.
Q. Did Mr. Williams' tumor show in situ epithelial atypia? First of all, tell the jury what that is?
A. Atypia, namely something that is not

typical. It refers when you're dealing with an epithelium, the degree of change that that epithelium may show in relation to what normal should be.

Q. So was there in situ bronchial epithelial atypia in this case?

A. For the most part, in fact, the bronchial epithelial that we saw, including in that low-power photograph, was totally normal. There were some fragments that showed minimally.

Q. There were other fragments that showed it.

What about the last criteria? Mitoses, we talked about.

A. Mitoses, of course, applied to both. Since both are malignant tumors, then by definition they will have them.

And necrosis was present in the case of Mr. Williams, but it is a different kind of necrosis that I could show now to greater advantage, if you let me in a moment.

Q. You mean on the exhibit?

A. Yes. In fact, I think it is the other one.

Very good. Thank you.

"Necrosis" means dead. And malignant tumors often outgrow their blood supply, so part of the tumor will be dying or dead at any given moment, and that is characteristic of the majority of malignant tumors. However, a relatively slowly growing tumor, as distinct from a rapidly growing tumor, will not show large areas of necrosis. There is nothing that is large here that is dead.

What you do see is individual cell necrosis. Single cells that you can recognize it. They look shrunken and small and very particularly dark, either dark cytoplasm or dark nuclei, or both. So we have individual cell necrosis as distinguished from large areas.

Q. As far as prominent cytologic atypia?

A. There is some cytologic atypia, which is characteristic, of course, of malignant tumor, but most of what you see is not wildly atypical from each other in the cells.

Q. But there is cytologic atypia?

A. Yes, indeed.

Q. Put "yes." And put question mark by the type of necrosis; would that be accurate?

A. Again, it depends. By "necrosis," what you mean in pathology, geographic large area that

looks like a map, clearly, there wasn't. Individual cell necrosis, of course.

Q. Doctor, I'm going to put up a second exhibit.

Doctor, I would like to ask you to explain to the jury the pathologic or pathology of mucoepidermoid carcinoma. And should we put "high grade" in this?

A. Yes.

Q. Could you explain to the jury the different characteristics here?

A. Well, mucoepidermoid carcinoma characteristically are central, as distinct from peripheral. And, namely, they are present in the main bronchi, which was, indeed, the case here. It was present, in fact, in both bronchi and in the trachea. If you will, like a saddle with somebody, in fact, sitting on that saddle, and it occupied much of the right bronchus, part of the left, and it extended about an inch or more up into the trachea. So it is about as central as it can come.

Q. So Mr. Williams' cancer was central?

A. Yes, indeed.

Q. And what does polypoid endobronchial

component mean?
A. Polypoid endobronchial component means something that is sticking out into the lumen of the tube, which is the bronchus or the trachea in this case. And the bronchoscopist, of course, clearly described an endobronchial growth, so much so that he states, if I remember correctly, that 75 percent of the right bronchus was obstructed to the point that he couldn't put the bronchoscope through.
Q. What about nests of intermediate and squamous cells?
A. That now goes to the histology, and it shows and it indicates the presence of those pink cells, those cells somewhere in between, and those with vacuoles, the mucous-secreting cells, and the absence of the gland.
Q. Is this present in this case?
A. Yes, indeed.
Q. What about No. 4. Squamoid cells with no pearl formation?
A. There was, in fact, no pearl formation. So it is there.
Q. Increased mitoses?
A. As characteristically expected in a

malignant tumor, there were a number of mitoses, so we saw them, indeed.

Q. What about in Mr. Williams' case, the presence of nuclear pleomorphism and hyperchromasia? What is hyperchromasia?

A. Hyperchromasia means that the nuclei, the center of the cell, the yellow of the egg, if you will, in which the genetic material is included, will have an affinity for the blue dyes as distinct from the red dye. And "hyperchromasia" means that it will be an increased content of the acid, so the nucleus, the egg, will be darker, bluer than normal. There was a certain degree of that as well, yes.

Q. And we discussed cellular necrosis.

A. Yes, I just showed you examples. That's why most of these tables -- and this is not mine -- say "cellular necrosis" as distinct from just "necrosis," it means a lot of it is dead, whereas here we're talking about individual cells.

Q. Now, last category, or characteristic, "usually lacks in situ carcinoma."

A. I don't see "in situ carcinoma."

Q. What's the difference between in situ carcinoma and in situ bronchial epithelial atypia?

A. As I said before atypia -- epithelial atypia means those cells are beginning to separate themselves from their ancestors, if you will. They are beginning to look different. And in situ carcinoma is an extreme form of that in which you can say, yes, this is already cancer, but it has not invaded yet. And I did not see it.

Q. Dr. Gould, can experienced pathologists disagree on what is in situ carcinoma versus what is in situ bronchial epithelial atypia?

A. Okay, they might.

Q. Would someone disagree in this case?

A. They could.

Q. I think we can probably return to your seat.

A. Thank you.

THE COURT: Would you hold up a minute until the witness and jury are back in eye contact.

Thank you. Go ahead, Mr. Sirridge.

BY MR. SIRRIDGE:

Q. Doctor, based on your discussion of those two exhibits, comparing the characteristics of mucoepidermoid carcinoma and adenosquamous carcinoma, do you have an opinion as to a

reasonable degree of medical probability as to which type Mr. Williams was more consistent with?

A. I think that the features that we saw in Mr. Williams, both what we saw in the tissue and the clinical characteristics fit by far with mucoepidermoid carcinoma.

Q. Doctor, had Mr. Williams been diagnosed with mucoepidermoid carcinoma, in your opinion, would the treatment have been any different in this case?

A. No, I don't think so.

Q. Why is that?

A. Mr. Williams' tumor, unfortunately, was found and diagnosed in a very advanced stage, and it was inoperable and he had to be treated with -- essentially to improve to try to open up his bronchus so he could breathe better and control his blood loss and so on, his hemoptysis. So I think the treatment would have been the same.

Q. Doctor, do you have an opinion in this case where Mr. Williams' tumor actually originated or began?

A. Given the diagnosis of mucoepidermoid carcinoma, which I believe is what Mr. Williams, in fact, had, then the tumor arose, therefore,

from the submucosal glands.
Q. Doctor, can I show you one last exhibit? It has been marked for identification as Defendant's Exhibit 929. For demonstrative purposes.
MR. GAYLORD: No objection for that purpose.
BY MR. SIRRIDGE:
Q. Dr. Gould, could you tell me what this is?
A. It is a diagramatic representation of the broncho pulmonary tree going from the bronchus to the bronchiolus to the alveolus.
Q. Doctor, would you step down for a second, and I will ask a couple of questions of you here.
A. (Witness complies.)
Q. Let me just ask, Dr. Gould, before we start, what does this exhibit which is marked 929 have to do with Exhibit 919?
A. What you see in this diagram is a representation of a cut that will include some of this part, the bronchus, and the bronchials; namely, well within the lung, and the alveolus, which is well within the periphery of the lung.
Q. Exactly where is it -- what is this a

picture of?
A. This is a cut section of a -- represents a very enlarged cut section of the bronchial wall. And here, you have the epithelium, what covers the inner surface of it, the glands that are underneath, and this is a diagram of cartilage that will give the bronchus or the trachea a certain degree of rigidity.
Q. Dr. Gould, you were saying on the witness stand, you were trying to describe the location where a mucoepidermoid carcinoma arises. Could you show the jury where that is?
A. Yes. It would arise right here, from these glands.
Q. Would that be the same location where an adenosquamous carcinoma would arise?
A. No. The prevalent idea is that adenosquamous carcinoma arises from the surface of the epithelium.
Q. Thank you. Would you return to your seat, please.
A. (Witness complies.) Thank you.
MR. SIRRIDGE: Your Honor, that's all I have.
THE COURT: Counsel, would you approach,

please.

(Discussion at the bench off the record.)

THE COURT: Jurors, having consulted with counsel, it looks like it is going to take longer than five o'clock to finish with Dr. Gould. So, in view of all the material that you have had today, I have just decided to call it a day for your purposes right now. We will continue tomorrow morning with cross-examination of Dr. Gould.

I want to remind you that as we approach the end of the trial it is more and more likely there will be press coverage, and I want to again instruct you that you are not to pay attention to any kind of media coverage about this case or any other matter that could involve this case until you are finished with your jury service. It is extremely important that you keep that in mind as you go forward.

Tomorrow we will start at nine o'clock. We are on schedule. As predicted last week, everybody is working hard to maintain that schedule. We appreciate your ongoing work and attentiveness. So good night. See you

tomorrow. Notes on the chair. Don't discuss the case. Watch your step coming out. See you tomorrow morning at nine o'clock.

(Open court; jury not present:)

THE COURT: Do we know any more about your scheduling issues, if you have any? Let's go off the record for a minute while you consult.

(Discussion off the record.)

(Evening recess.)

STATE OF OREGON
ss.
County of Multnomah

I, Dennis Apodaca, Official Court Reporter of the Circuit Court of the State of Oregon, Eleventh Judicial District, certify that I reported in stenotype the foregoing proceedings in the above-entitled case.

I further certify that my stenotype notes were reduced to transcript form by Computer-Aided Transcription under my direction.

And I further certify that pages 1 through 122 contain a full, true, and accurate record of my stenotype notes.

Dated this 18th day of March, 1999, at Portland, Oregon.

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Dennis Apodaca
Official Court Reporter